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THE FARM INDEX

TRI-AGENCY READING ROOM

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The milk mart. A good supply of herd replacements . . . an easing of the tight labor situation . . . top-of-the-record milk prices . . . and the present high milk/feed price ratio. All are favorable to more milk output and indicate a small gain for 1970 from the 116.2 billion pounds of milk produced last year.

More milk is available for manufacturing this year than last. Output of cheese, nonfat dry milk, and frozen dairy products is running stronger.

Also, compared with last year, customers have stepped up their purchases of all these items—plus lowfat fluid milk products and frozen desserts. But, overall, dairy sales are not quite matching 1969's.

With the slight drop in total dairy sales and heavier production, the USDA is buying more dairy products to support milk and butterfat prices than it has since 1967.

Farm milk prices have been running about 4 percent higher than in 1969. And as of now it looks as though farmers' cash receipts from dairying this year are likely to be some 4 percent above the \$6.2-billion level of 1969.

The market basket and the farmer's share. A market basket full of farm foods retailed for \$1,226, annual rate, in the second quarter of 1970. Increase from the first quarter was only one-tenth of 1 percent—smallest quarterly rise since late 1968.

The farmer's share of the market basket averaged \$484. The slippage of about 4.4 percent from the first quarter of the year was due to lower farm prices for animal products. Increases for fresh fruits and vegetables and soybeans didn't offset them.

Put it another way: Farmers got 39 cents of every dollar consumers spent for farm foods in the April-June quarter. This was the first quarter of the last six

The Corn Blight: What It Is

History. Southern Corn Leaf Blight is a fungus disease that has been observed intermittently in the southern United States as a leaf spot and blight for many years. Damage has usually not been severe as most corn has had a fair degree of inherent resistance.

But the infection that has hit main corn-producing areas this year in varying degrees is a *new* race or virulent form of the fungus parasite, *Helminthosporium maydis*, which apparently developed between 1963 and 1969.

It showed up in 1969 in Illinois and in the 1969/70 winter crop in Florida. In retrospect, some observers in other States (including Iowa) believe it was present in 1969, as an "ear rot." It now exists in areas from Texas to Florida in the South up to Minnesota and Wisconsin to the North.

Symptoms, prognosis, and treatment. Symptoms of the disease include oval-shaped lesions. The new mutant parasite attacks primarily leaves, but sometimes stalk, and ears. The spores are carried by the wind, but they need moisture to germinate. High humidity in the Corn Belt this summer encouraged this germination.

The disease affects those corn hybrids that carry the "T" gene for male sterility. Some 70 to 90 percent of corn hybrids grown in the U.S. carry this gene.

If the disease appears before or soon after tasseling, the yield, quality, and feed value of the grain is reduced—but to what extent has not been determined.

If poisonous substances are produced by the fungus, they apparently are injurious only to the corn plant. Recent feeding trials show no adverse effects on livestock.

Treatments of infected fields are not considered to be effective after the fungus strikes. And, except for sweet or seed corn, cost of spraying every few days makes the cost of this control prohibitive for farmers growing field corn for feed.

The best control is the use of resistant seed. And seed companies plan to expand production of existing non-"T" cytoplasm forms of hybrids for use in the 1971 season.

that the farmer's portion fell below 40 cents.

Food prices. Up steeply last fall and winter, retail food prices held fairly steady through the summer, with only the normal seasonal upswing. Prospects for this fall: a downturn beyond seasonal moves if the red meat supply (pork particularly) becomes more abundant as expected.

Through the end of the year, food shoppers may pay out 3½ to 4 percent more than they did in the second half of 1969. Prices for the year as a whole are likely to run about 5 percent ahead of 1969's, mainly because of hikes at the start of this year.

As for eating-out between now and the end of the year . . . be prepared to pay a check that is at least 7 percent more than it was in the last quarter of 1969. Through July, away-from-home eating prices ran nearly 8 percent above last year's rates.

Pick your size. Thanksgiving turkeys will be plentiful, as 1970 production is expected to be 115 million birds—8 percent more than last year. Heavy breeds will add up to 102.8 million pounds . . . light breeds are estimated at 12.2 million.

Bolls, bales, and bolts. Man-made fibers not only caught up but surpassed world cotton production in the 1969/70 season.

Output of the manmades (including textile glass fiber) soared to a record 18.3 billion pounds in 1969—an increase of about 10 percent from 1968. This was equivalent to 56.6 million bales of cotton, and slightly over 5 million greater than 1969/70 world cotton production.

The gain in manmade fiber output was a little greater abroad than it was at home. U.S. man-made fiber output rose to the equivalent of 18.4 million bales of cotton, accounting for nearly a third of the world's total.

Foreign spotlight. Good grain crops are in sight for the two giants of the Communist world—USSR and Mainland China. But the outlook is poor in most East European countries.

Export competition in grains from the Soviets will probably intensify, but the bulk of their anticipated production increase is expected to go into livestock feed.

Mainland China has reportedly agreed to buy 5.34 million tons of chemical fertilizer from Japan, under the 1970 Japanese-Chinese Memorandum Trade Agreement. Though the sale had not formally been announced as of September 1, nor period of shipment disclosed, the transaction would be a record in chemical fertilizer trade for both countries.

Australian drought and freezes in August reduced the 1970/71 wheat crop forecast to 8 million metric tons—down one-fourth from last year. Despite heavy wheat exports, however, carry-over stocks are expected to be about 8 million tons as of December 1, 1970. Stocks of this size would be the largest peacetime volume carryover.

Thailand. An increase from 40 percent to 60 percent ad valorem on tobacco imports, could affect U.S. tobacco exports to Thailand (they have averaged \$20 million in '68 and '69). But our tobacco sales to the Thais should remain good because our tobacco is favored over cheaper tobaccos for blending.

Taiwan. Farm product imports last year reached a record \$225 million—27 percent above 1968. The U.S. share slipped to 49 percent from 1968's 56 percent, despite an overall rise to \$125 million from \$112 million. By commodity, our share of Taiwan's '69 imports were: oilseeds, 94 percent; fats and oils, 62 percent; cotton, 50 percent; and tobacco, 67 percent.

FARM

RURAL LIFE

MARKETING

CONSUMER

FOREIGN

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Features

- 4 Sheep Trails And Turnpikes**
With inroads of industry, Utah and Nevada sheep face dearth of grazing land

- 9 Rural America: Teaming Up For Community Services**
Third in a series of four articles dealing with prospects for progress outside the metro areas

- 12 Bacon Analog Gets A Trial**
Entering the synthetic scene is a bacon strip that's never seen a hog

- 15 The Bean Poll: A Consumer Survey**
Why families above the poverty level don't eat more beans more often

- 17 Whither Wheat In The LDC's?**
The promise and problems of using semidwarf varieties in less developed countries

Departments

- 2 Agricultural Outlook**
21 Recent Publications
22 Article Sources
23 Economic Trends

Numbers in parentheses at end of stories refer to sources listed at end of issue.

Sheep Trails And Turnpikes

The business of sheep ranching in Utah and Nevada is an expensive, longtime venture where the profits ride on grazing lands now being invaded by industrial complexes.

The range is very much home for the migratory sheep ranchers of Utah and Nevada.

Though some ranchers bring their sheep to corrals or sheds for lambing or shearing, life is usually one long trip from range to range. The sheep move across

both public grazing lands and private deeded lands.

(Ranchers are required to have a home base, however, in order to get a grazing permit. They have to own enough land to maintain their sheep when they aren't using public land.)

Utah and Nevada together comprise one of the most important wool producing areas of the United States.

For the operators of the migratory sheep ranches that predominate in this region, business has

been looking up lately. Ranchers reaped record returns in 1969.

Nevertheless, these "constant travelers" are becoming constant worriers as they take stock of what the future holds for their special kind of sheep raising.

First and foremost, the frontier is fast fading away—if it is not gone already.

The public domain, and other open rangeland on which these ranchers depend on for their livelihood, has contracted to make space for industrial complexes.



A Flock Is How Many?

How many sleepless sheep-counters know exactly how many sheep are in an average flock?

Most insomniacs, and a lot of other people as well, probably do not know that the size of a flock depends on the the kind of sheep farms. There are three general types.

About 90 percent of U.S. sheepmen have "farm flocks"—an average of less than 40 sheep, fenced in. Despite the many producers with this type of operation, they produce only about 35 percent of the sheep.

Many purebred animals come from these farms, and owners of larger ranches often depend on them for their breeding rams.

The second type is a larger operation, common on the Plains and in the Southwest and sometimes run jointly with cattle or wheat enterprises.

It usually involves about 1,000 sheep also under fence and managed in much the same way as a farm flock. About a fifth of our lamb crop comes from this group.

Migratory sheep ranches are a third group.

The sheep on these ranches graze the public domain, at least during a part of the year. While on public domain they are under control of herders. The usual operation runs from 1,800 to 3,000 head. (2)

The old sheep trails and feed lanes have given way to public roads and turnpikes. Most herds have to be trucked from range to range now, and the cost of trucking adds considerably to ranching costs.

Mechanization of shearing and other technological innovations are a mixed blessing, too. Although advantageous to ranchers in many ways, doing things the modern way costs more money.

Fewer sons of migratory sheep ranchers want to stay in the business. And hired workers who are willing to live the lonely life of a migratory sheep herder, are getting harder to find and demanding more pay.

Another problem these ranchers face is the shrinking demand for wool. Competing manmade fibers have already made big inroads into the wool markets. The trend is not likely to be reversed.

Cattle farming—an enterprise that in general has more appeal to ranchers because it involves less labor problems—has already pushed back sheep operations to a great extent.

As a result, many of the smaller and less efficient sheep operations have gone out of business, or have combined with other ranches.

Despite uncertainties about the future for this industry, producers' profits have been relatively good in recent years on well managed ranches.

Gross income last year averaged slightly over \$54,000 per ranch—a new record and nearly 11 percent above the 1968 figure.

Net ranch income in 1969

climbed 18 percent to about \$21,400. This was almost three times the annual average during 1960-64.

Ranchers got higher prices for lamb and wool. Together they accounted for around 95 percent of ranchers' earnings. The balance came from sheep sales, incidental crops, and byproducts. Prices for all products combined were up 11 percent from 1968 and 40 percent from the 1960-64 average.

Last year's lamb marketings per ranch also broke all records. They contributed well over half (58 percent) of the sheep rancher's 1969 cash receipts.

The gross value of lamb marketings came to nearly \$32,000

per ranch. Lamb prices reached a 13-year high. In addition, lamb weights were slightly heavier than a year earlier—perhaps because range conditions were better than in 1968.

Wool prices and wool incentive payments also surpassed 1968 levels. As a result, wool income was around 2 percent higher in 1969 than the year before.

Total value of these ranches increased from around \$179,000 per ranch in 1960-64 to \$215,000 in 1969.

But ranch expenditures mounted too. In 1969, they averaged 6 percent above a year earlier, and 22 percent above 1960-64. (1)

Steady Drop in Sheep and Lamb Numbers Goes Into 11th Year

The number of sheep and lambs on farms and ranches continues to decline.

Although the number slaughtered is expected to be smaller this year than last, the decrease will not be enough to prevent the 11th consecutive decline in the sheep and lamb count at inventory time, January 1, 1971.

Sixty percent of the stock reduction since 1960 has been in the West. But the rate of liquidation has been much higher elsewhere.

For example, in the 11 Western States, plus South Dakota and Texas, sheep and lamb numbers dropped 32 percent between 1960 and 1970. In 35 remaining sheep States the inventory declined 50 percent.

Despite the persistent decline in total U.S. sheep and lamb numbers, the 1970 lamb crop—at 13.4 million head—was only 2 percent smaller than a year earlier.

Lambing rates in 1970 tended to be higher in most sections of the country, though the sharpest increases were in the West and in Texas, where the rate accelerated from 80 percent last year to 88 percent in 1970. (3)

Alaskan farmer is low man on totem pole if weather decrees

	Acres harvested				Yield per acre			Production		
Commodity	Average 1963-67	1968	1969		Average 1963-67	1968	1969	Average 1963-67	1968	1969
Grain										
Oats	620	900	500	Bu.	65.3	52.0	24.0	40,500	46,800	12,000
Barley	1,820	1,900	1,400	Bu.	39.0	30.0	24.0	71,042	57,000	33,600
Roughage										
Grain Hay	1,380	900	1,500	Ton	1.58	1.22	.67	2,180	1,100	1,000
Grain Silage	3,440	2,700	2,600	Ton	5.82	6.11	3.54	20,020	16,500	9,200
Grass Hay	6,720	7,700	7,800	Ton	1.30	1.25	.85	8,760	9,600	6,600
Grass Silage	1,580	1,600	1,600	Ton	3.24	4.00	3.19	5,120	6,400	5,100
Potatoes	734	620	620	Cwt.	180	185	115	132,400	114,700	71,300

Alaska can boast of its vast regions, its unlimited mineral, oil, and fish treasures—but when it comes to agriculture it's quite a different story.

Nature has imposed limits on Alaska's agricultural output. Weather is the primary factor. Usually it's a tale of too little, too early, or too late. In 1969, it was a combination of all three.

A freeze that comes only once every 50 to 100 years in early August killed crops in many areas. And lack of moisture over an 18-month period added to farmers' woes.

The experience of farmers in the Matanuska Valley—Alaska's most productive farming area—dramatically, yet typically, illustrates how frustrating adverse weather can be.

The 1969 crop season began drier than normal. Even so, some early vegetables were planted at the beginning of April.

By the end of May it was obvious that loss of soil moisture, because of heavy winds, was going to be critical. So farmers delayed seeding, hoping for moisture to

insure better germination. But the moisture shortage persisted throughout the entire growing season, and some farmers didn't plant their intended acreage.

However, farmers who had irrigation facilities were in much better shape. With above normal temperatures and clear skies, their crops developed rapidly.

Though crop output was down substantially for the year, livestock numbers were steady or increasing.

As of January 1, 1970, Alaska had 9,000 head of cattle and calves. This 4-percent increase over 1968 continued the uptrend of the past decade.

Alaska's milk output rose slightly. One bright spot in the 1969 dairy picture was the record output of 10,170 pounds of milk per cow. (Average for the Nation is 9,158 pounds.)

The Alaskan wool clip was also up. At 269,000 pounds, it was 2 percent above 1968. Sheep fleeces averaged 11.7 pounds—heaviest of any State and also the cleanest.

Poultry output in Alaska wasn't much to crow about in 1969.

The number of all chickens on farms January 1, 1970, was the same as a year earlier. But the number of hens and pullets of laying age averaged 14 percent less than a year earlier.

As both the number of layers and rate of lay were lower in 1969 than in 1968, egg production tumbled 27 percent to 5.3 million from 7.3 million the year before.

Our largest State has the smallest but the best paid farm labor force.

Alaska's farm labor force averaged about 750 persons a month last year, down 150 from 1965 figures. These figures include both family and hired workers.

Hired labor, 27 percent of the annual labor force, is found mainly on dairy and vegetable farms.

Average farm wage rates in Alaska during 1969 were the highest of any State.

The monthly farm worker's salary of \$430 (with house) was well above the comparable annual U.S. average. Monthly wages of \$330 (with room and board) were \$96 above the U.S. average. (4)

Less the Capital, More the Risk To Build Up a Bigger Dairy Herd

Michigan Farmer A with \$55,000 equity in his dairy operation could end up with an organization worth anywhere from \$225,000 to \$550,000 in 10 years—if he plays his cards right.

Michigan Farmer B with \$95,000 equity in his farm could see his total assets grow to \$400,000 to \$825,000 over the same period.

But, in order to do this, Farmer A would most likely have to incur debts of from \$90,000 to \$360,000 and Farmer B's debts could amount to \$160,000 to \$540,000 after 10 years.

These are some of the calculations evolving from Economic Research Service analysis of Michigan dairy farm growth.

If the figures seem large to today's lenders, they are just as large to most of Michigan's dairy farmers. How many of them are ready to take over the management of a dairy farm of 100 to 200 cows worth one-quarter to three-quarters of a million dollars?

To expand much smaller enterprises to such a size would take a bit of financial doing. Farmers would have to operate more freely outside the traditional owner-operator framework. And lenders would have to be prepared to extend credit upwards of half a million dollars to a single farm borrower if necessary.

A Michigan farmer needs \$35,000 to \$50,000 of equity capital to establish a modern dairy operation capable of earning a net income of at least \$4,000 a year.

But this is more capital than most young or beginning farm operators have.

So, instead of buying their farms, operators have to search for ways to stretch their capital. They may rent a farm or join with relatives in a family part-

nership. Or they may try to obtain loans with lower downpayment requirements and longer repayment terms.

Here are some possible outcomes of alternative financing arrangements for achieving a 125-cow herd in 10 years:

	<i>Beginning equity needed</i>	<i>Net worth in 10 years</i>	<i>Debt in 10 years</i>
<i>Normal downpayment</i>			
Shorter requirements plan	\$80,000	\$220,000	\$140,000
Average requirements plan	75,000	202,000	160,000
<i>Liberal downpayment</i>			
Shorter requirements plan	55,000	175,000	210,000
Average requirements plan	43,000	155,000	260,000

In general, when used to attain a given herd size at some future time, lower downpayment requirements and longer repayment plans mean:

- Less beginning equity
- Lower level of family income
- Lower net farm worth
- Larger debt load

Thus the dairy farm operator with limited capital can grow, but with greater risk—when judged by traditional standards.

Both the farm operator and his lender should take a closer look at the factors that affect dairy farm success.

Some factors are basically out of the hands of either farmer or lender. They include prices, weather, the tax structure, and land appreciation.

Other factors are largely under the influence of the operator. They include his goals as a dairyman, his financial management ability, his dairy-farm knowhow, and the size of his operation.

Still other factors can be manipulated by both parties. Alternative repayment plans, downpayment requirements and sound financial planning all fall into this category. Such items provide many opportunities for new and creative financing to help operators meet their goals.

Extending loans of one-fourth to one-half million dollars, how-

ever, might make it necessary for lenders to require borrowers to adopt different forms of organization, such as corporations, or have backup managerial arrangements in case the principal operator must leave the dairy farm.

The risk can possibly be re-

duced through insurance programs. Or perhaps only lenders capable of loaning to all types of farms, and spreading the risk over a large area, can provide such financing in the future. (5)

Montana's Land Values Mirror Prospects for Wheat/Livestock

Buyers of farmland in Montana are keeping a watchful eye on the outlook for livestock and wheat. These two commodities pretty much set land values in this State.

Availability of credit, managerial skills of the buyers, and Federal programs also influence the price of farmland, but to a lesser degree than prospects for livestock and wheat.

One factor that does *not* play a role in determining land values in Montana is urbanization. High-rises, townhouses, and regional shopping centers have little in common with the Big Sky Country. The demand for real estate, is expected to increase, however, for such uses as rural residences, recreation, and conservation.

In the near future, the greatest upward pressure in this State's land market will be on land used to graze cattle. Montana ranchers—whose cash receipts account

for over half the State's total from farming—expect cattle prices to stay favorable. This optimism is being reflected in rising prices for grazing lands.

Wheat, on the other hand, presents an uncertain picture. Roughly one-fourth of Montana's cash farm receipts come from wheat sales. Prices for this commodity have gone down with the shrinkage in overseas markets. Changes in the value of wheat land will depend largely on the form of farm legislation.

Since 1960, Montana's farmland values have gone up about 45 percent (to \$53 an acre as of March 1969), around 10 percentage points less than the increase for the nation. (6)

Is It Time for Some Changes In The Official Definition of a Farm?

What is a farm?

The question is of more than rhetorical importance. Because of the rapid pace of change in agriculture, a farm is becoming more and more difficult to define.

Farms today are vastly different than they used to be as they have grown fewer in number, larger in size, and more specialized and commercial.

Technological changes in production and marketing have blurred distinctions between "farm" and "nonfarm." Many functions formerly performed on the farm, such as feed mixing and fertilizer application, have shifted to industry. A few other functions, such as packing of vegetables, have shifted to the farm.

Increasingly, agriculture is becoming a complex industry reaching into both rural and urban areas. "Farming" is one stage in this industry.

Definitions now used fail to reflect these changes. In the 1969 Census of Agriculture, a farm is any place under 10 acres if estimated annual sales of agricultural

products exceed \$250, or any place over 10 acres if annual sales exceed \$50.

A few hens in a backyard which produce for sale \$250 worth of eggs a year is a Census farm. So is a 30,000-acre cattle ranch in Texas. Other currently used classifications also have shortcomings.

Lack of a more precise definition makes it more difficult to collect statistical information on farm prices and costs and to study such things as farm organization, and the distribution of agricultural income—even to determine who is a farmer and who isn't.

Problems of this kind hinder understanding of farm problems and the development of farm policies and programs.

A recent study made for ERS analyzed the definition problem and proposed a fourfold classification:

- a. Productive farms
- b. Farm firms
- c. Farm service firms
- d. Manufacturers of agricultural products

For a productive farm, the following criteria are established:

—It must have interrelated agricultural activities performed on a more or less fixed land base.

—Its day-to-day operations should be supervised by one person, or a single family, or a partnership of no more than three persons or a small corporation.

—Its total annual product sales should exceed \$10,000. Or, alternatively, total sales could be between \$2,500 and \$10,000, but would have to represent 50 percent or more of the operator's gross income from all sources.

Farms included under this definition would be fairly homogeneous. They would resemble what in the past have been called family-type farms.

Forty-two percent of all farms reported in the 1964 Agricultural Census would not qualify as productive farms if the study's pro-

posed minimum sales requirements were put into effect.

Most of these have part-time or semi-retired operators who receive by far the greater proportion of their income from non-farm sources.

Farm firms are those enterprises having a direct financial interest in agriculture large enough to file a tax return and qualify for business deductions. This classification would provide a measure of the number of individuals, partnerships, and corporations having significant agricultural operations. But, the number of "farm firms" and number of farms would be different and irreconcilable.

Farm service firms are businesses which move from farm to farm to provide services. These are generally services which farmers performed themselves prior to World War II. Typical operations of "farm service firms" include feed mixing and fertilizer application.

Manufacturers of agricultural products are managed by more than a family or small partnership.

As defined in the report, "manufacturers of agricultural products" are essentially land-based operations where various functions are supervised by several different employees, as in a factory.

For example, an orange grove would be a "manufacturer of agricultural products" rather than a farm if one person supervised the spraying, another the pruning, another the cultivating, and yet another the harvesting.

Places where agricultural operations are performed completely within an enclosed light-and-temperature-controlled structure also would be called "manufacturers of agricultural products."

Operators who grow mushrooms or raise poultry under these conditions would be classified as manufacturers rather than farmers. (7)

Rural America:

Teaming Up For Community Services

[*The Third in a Series*]

Foresighted communities with plans to generate economic activity also prepare for the "people pressures" brought on by rural development projects.

Newcomers to a community will expect more than just job opportunities. They will want many of the same public services available in the cities and suburbs—like water, electricity and gas, sewage systems, medical care, good schools, cultural activities and more.

To be sure, not every community can afford to deliver these services. The capital costs are generally high, and may be beyond reach of small units of government.

By cooperating with other communities, however, local officials can stretch their limited resources to get the much needed water treatment plant and other facilities.

A good example of interlocal cooperation is the sharing of educational services.

In up-state New York, the University College in Oneonta offers in-service programs for teachers, institutes for school board members, and a program of Saturday seminars for high school students. Some 30 schools in this rural area are offered these services. Two school systems 60 miles from Oneonta are sharing the benefits of one seminar, in psychology, conducted by amplified telephone and telewriting.

In southeast Alabama, library services have been greatly expanded through a cooperative effort of four counties. Officials built a regional library, procured bookmobiles to ply remote areas,

and set up a system whereby local libraries could get professional assistance in purchasing, selecting and classifying books.

Financial support for this project came from many sources: national, State, and local. The counties themselves contributed a small amount for each resident in their districts. Seven municipalities also helped share the costs.

The anticipation of cost reduction is a primary reason for launching a cooperative activity.

Another is that the need for a service often extends beyond the boundaries of the local government unit. Requirements for highways, sewers, and water supply are common illustrations. To provide these and similar services over wide areas, over 400 multi-county planning districts have been set up in all but 10 States.

Practically every government function is being carried out to some extent through interlocal cooperation, according to an ERS survey covering a 5-State area. This survey, the first of its kind, found the following types of interlocal cooperation among local governments:

Exchange of information and parallel action. This is when local officials get together to discuss common problems, and often decide to take parallel actions.

Some years ago the mayors of a dozen cities met to decide whether their districts should go on eastern or central time. These men never did have a meeting of the minds. But they did agree to hold regular monthly meetings to exchange information about problems of mutual interest. One outgrowth was a cooperative ar-

range for snow removal.

Mutual aid. An illustration is the widespread network of agreements among fire departments to come to one another's assistance. Mutual aid is also used in comparable situations, such as emergency needs for police protection.

Contracts and sales of services. Where one governmental unit already provides a service, it will sell that service to others.

In one State, a couple of townships pay a fee to a nearby city in return for its fire fighting services. The city supplies a tank truck, a squadron to man it, and allows the townships to use other city-owned equipment. In addition to the benefits of fire protection, the cooperating townships found their fire insurance rates dropped sharply under this arrangement.

Joint Action. Usually, this is used for large projects involving substantial capital outlays. It also might entail the establishing of a new authority, joint committee, or governing board.

Two Pennsylvania counties and three cities set up an authority to build and operate a \$7-million airport. The airport is now served by three major airlines, and offers direct flights from as far away as Minneapolis and Miami. It is run by a board of governors composed of three private citizens selected by each of the five participating governments—15 people in all.

Ways of dividing costs are equally varied. The simplest way is for each party involved to pay its own costs, as in the case of fire fighting services.

A second approach is the serv-

ice charge. One unit "sells" the service to another and bills for the cost.

Under a third method of cost division, each unit pays an agreed-upon share. This might be apportioned on an assessed valuation, or per capita basis. Sometimes the parties simply agree to pay a specified percentage of costs.

Why don't more communities take the cooperative route to development?

Not all the States have laws that permit certain forms of cooperation among local government units.

And, some of these laws are hard to interpret. Even lawyers themselves don't always agree on whether it's legal for two villages to cooperate.

States with constitutions that specifically refer to local cooperation include Alaska, California, Florida, Georgia, Hawaii, New York, Missouri, and Ohio. The references range from authorization for legislatures to delegate cooperative power to local governments, to a direct grant of power to these governments.

There are other explanations why cooperation is not more common. "Big" is not always "better." A local government may be able to provide some services just as effectively and efficiently by itself as by banding together with other units.

Another reason is that all too often the local leadership doesn't know where to turn for assistance in planning and financing.

Many Federal and State programs are available to all local governments. But all rural areas have not had equal access to these programs because they lacked information on how to participate in them.

(This is the third in a series of four articles about rural America. The next will discuss public and private programs available to help in development.) (8)

Going Places and Doing Things May Lengthen the Span of Life

Old age doesn't necessarily mean lying in a hammock and reminiscing.

As a matter of fact, elderly people whose lives continue to involve new people, projects, and plans tend to live longer than those who settle into the hammock.

This is one of the conclusions drawn from a study of 47 healthy, older men whose health and activities were monitored for 12 years by sociologists of the Economic Research Service and by the National Institute of Mental Health.

The "case histories" confirmed that elderly people are inevitably faced with limitations of one kind or another as their physical and psychological capacities diminish, and their social circumstances change.

Coping with these changes was easiest for those men who had been able to adjust to change in earlier life. At any rate, the men who fared best and tended to survive were those who, at the beginning of the study, still had a close, personal relationship with someone, a bright outlook, a number of friends outside the family circle, and organized, active lives.

The men who took part in the study were mainly between the ages of 65 and 75 in 1956/57. They had a variety of backgrounds and professions—ranging from semi-skilled to professional. About half the group were foreign born. All of them, despite their age, were in good health.

The men were interviewed and tested to find out the organization of their daily activities, current outlook on life, degree of passivity, and the extent of their social interaction beyond the family.

At that time, half of them said they had contacts beyond the family; half were satisfied with their lives. And only about a

fourth found life really burdensome.

Ten years later, in 1967-68, there were 24 survivors out of the original 47. Some of them had passed their 90th birthday. Each man tended to respond to his pattern of living and the people around him in much the same way as he had earlier.

As a group there was little or no tendency to withdraw from the social environment, although the death of a family member or close friend seemed to have a deteriorative effect on a man's view of life—and therefore on all aspects of his life.

Impairment in one aspect of an older person's life, it is suggested, may trigger an overall weakening and perhaps a total collapse in the later stages of life.

Earlier, some of them had functioned badly in some areas while still doing well in others.

For example, some led relatively passive lives during the beginning of old age, yet had a bright outlook, friends, and plans.

In the later stages, however, passivity seemed to go along with a generally unfavorable state of mind.

This suggests that a passive way of life—as long as it's a matter of choice—needn't necessarily lead to a general decline. But when an elderly person is forced into a passive life it can affect every aspect of his existence. (9)

Managerial Talents of Farmer's Wife Are Too Often Underrated

The hand that used to rock the cradle may now be writing the success or failure of a farm enterprise.

Women have traditionally been upstaged by men in matters of farm management—especially where borrowed money is involved. But the role of women is taking on new importance since credit has become a major factor

in running a farm and many lenders are trying to reappraise their criteria for extending credit.

A South Dakota study suggests that economists and lending institutions should take both wives and husbands into consideration when appraising the chances of a farm's success.

The study is based on the premise that management is human behavior and should be studied in sociological as well as economic terms.

Viewed in this light, the management talents of a wife are often the saving factor in success of a farm firm that might otherwise "fold" because of a husband's inefficiency. This is especially true if the wife has a positive attitude toward her husband's career.

To a lesser extent, a complaining wife with a negative attitude toward farming can weaken her farmer husband's motivations. And in some cases she may even try to cause problems in the farm operation in order to get him to give up farming.

Cases are also encountered where the reverse is true. Though the husband may lack interest in farming, he may disregard his wife's pro or con attitude and stick to farming because he thinks it is the best way to earn a living for his family.

Aside from her role as a sociological helpmate or hindrance, the farm operator's wife is often an active member of the farm work force.

On farms hiring labor, the wife averages 397 hours of work a year. Her work year ranges from 229 hours on cash grain farms to 767 hours on dairy farms. However, on crop farms, if she's a tobacco farmer's wife she puts in more time than wives of other crop producers.

Averaging the workload for all sizes and types of farms, wives of farm operators supply around 9 percent of total labor needs. (10)

Incomes from Farm and Nonfarm: Most Farm Families Take Both

Combining farm and nonfarm incomes is becoming an agricultural fact of life. The average U.S. farm family now relies on off-farm earnings for at least one-half its total net cash income.

As technological advances have reduced the need for farm labor, many farm families have turned to the outside world for income. Some have forsaken farming altogether.

Others, however, have preferred to combine earnings from both worlds—farm and nonfarm.

This trend toward combining incomes shows no sign of abating. Over the past 10 years, manufacturing jobs have opened up faster in rural areas than in cities (see Farm Index, August 1970). This expansion in rural job opportunities will be reflected in data collected by the 1969 Agricultural Census.

It is anticipated that the number of farm families with nonfarm incomes will be well above the level reported in 1964, the latest available data. Slightly more than four-fifths of all farm families had "other" income at that time.

But some areas reported an even higher proportion.

In the Pacific Northwest States (Washington, Oregon, and Idaho), nearly 85 percent of farm households reported nonfarm earnings in 1964. Though this was 3 percentage points higher than the national average, it is indicative of the national trend.

Farm operators made up over half of all Northwest farm household members receiving outside income. They earned three-fourths of the nonfarm income reported, and over 40 percent of them spent at least 100 working days off the farm.

The outside sources of income for farm households in the Northwest included—70 percent from

wages and salaries; 13 percent from nonfarm businesses and professions; 10 percent from property rentals, interest and dividends; and 7 percent from welfare payments, social security and pensions.

Nationwide, the nonfarm income from wages and salaries was 6 percent less than in the Northwest, but the earnings from rentals, interest and dividends were 6 percent more.

The smaller the farm or its volume of sales, the greater the likelihood that its household members had nonfarm income. Western Washington and Oregon, where the farms were smaller and nonfarm jobs more abundant, had the greatest concentration of farmers who worked off the farm 100 days or more each year.

While almost a third of the farmers in the Pacific Northwest were classified as part-time, they received nearly half of all nonfarm income earned by farm households in the area. (The 1964 Census of Agriculture defines a part-time farmer as one whose value of farm product sales is between \$50 and \$2,500, and who works off the farm more than 100 days annually.)

These part-time farmers in the Northwest realized only a twentieth of their total net incomes from farm profits.

At the other end of the scale, farm households whose total farm product sales exceeded \$40,000 realized close to nine-tenths of their net incomes from farm profits. These large-volume farmers garnered only 5 percent of the total nonfarm income for the Northwest area's farm families.

Just how much did this nonfarm income amount to in the Pacific Northwest States? Less than a third of the farm households reporting had nonfarm earnings under \$2,000. Forty-four percent earned more than \$5,000 off the farm, compared with only 24 percent for the Nation as a whole. (11)

Bacon Analog Gets A Trial



Market tests in Indiana evaluate consumers' reaction to a synthetic bacon—strips of vegetable protein.

An analog is "something that is similar to some other thing," says the dictionary.

A bacon analog is therefore something—a fabricated strip of vegetable proteins, to be exact—that simulates the look, taste, form, and texture of real bacon.

The product is one of the more recent meat analogs to be developed. Various others are already on retail food shelves. Some are ingredients in dried entrees. Others—bacon bit analogs among them—are sold as individual items. Still others are used by institutions, such as hospitals, as meat substitutes in various main dishes.

Like other meat analogs, the potential effect of a bacon substitute is of concern to many in the farm economy: the hog producer, the food manufacturer, and the consumer who likes to tailor his food budget to suit his tastes.

So far, the bacon analog has been retailed only on a market testing basis. But the test results, limited as they are, indicate a good chance for commercial success of the product.

The test was conducted over a 6-month period in Fort Wayne, Ind., a city with a diversified industrial economy and a population close to 180,000. Forty supermarkets from national, regional, or local chains participated.

Store audits were used to determine sales of traditional ba-

con, of the test product, and of its likely competitors. Consumer surveys were used to ascertain reactions to the test product, problems in use, initial and repeat purchase rate.

The bacon analog was sold as a frozen food, whereas bacon stocks were displayed as usual in refrigerated cases in a separate section of the store.

In addition, price of the test product was held constant at 69 cents for an 8-ounce package of 32 strips. There are usually 20 strips in a 1-pound package of bacon that generally retails between 75 cents and 85 cents a package.

Major selling points of the bacon analog, as advertised to consumers, were:

It does not shrink during cooking (though it can be prepared and used like bacon.) It has no cholesterol. It is precooked. It has one-third the calories of bacon. It costs half as much as bacon on an as-served basis.

Judging by the consumer sur-

vey findings, the public showed little aversion to a vegetable protein bacon substitute.

(The substitute product has 14 ingredients, including generous measures of wheat and soy proteins and corn oil.)

During 3 months of the most intensive sales promotion, the analog attained a 4-percent share of the bacon market. But the share dropped to 1.3 percent at the end of the test period when no special efforts were made to push sales.

Another interesting feature is that the sales pattern for the bacon analog seems likely to follow that of bacon—by store, by city, and from month to month.

Within the Fort Wayne area, for example, stores with the best sales performance for the bacon analog were those in neighborhoods with median incomes above \$6,000. They had weekly store sales of \$39,999 or more, and bacon sales of 2,000 to 2,499 pounds a month.

People interested in “good buys” were an important group of buyers.

So were weight and cholesterol watchers, some of whom normally shy away from traditional bacon.

Most buyers of the substitute product, however, continued to use regular bacon. This lack of substitution is, of course, a short run effect. Food habits do not change quickly. Thus, it is possible in the longer run that continued purchases of a bacon analog might affect household use of bacon. (Margarine’s inroads on the butter market is a classic example of a substitute product’s impact over a period of many years.)

It is highly unlikely that people will ever eat as much bacon analog as bacon.

Yet even a small share of the bacon market would prove to be quite a slice, since our national consumption of bacon is estimated at more than 1½ billion pounds yearly. (12)

Texans Step Up Output of Their Cotton Gins After 3-Year Lag

Texas cotton ginner pulled a switch last season when they reversed a 3-year downtrend in their use of ginning capacity and volume of output.

Gins with a capacity of 12 through 20 bales per hour ginned an average of 20 percent more cotton in 1968/69 than in the previous season.

Pushing Farm Machines

The bigger a farm machinery company is, and the more diversified its operations, the more it spends on advertising.

Since 1960, firms with over \$250 million in assets have accounted for more than half the total outlay for ads by the farm machinery and equipment industry.

The biggest spurt in spending by the whole industry was in 1965 and 1966—a period when many large firms diversified their activities, becoming multi-industry as well as multi-unit enterprises.

Though the big firms spend much more overall for advertising than their smaller competitors, it is a smaller percentage of their taxable incomes.

Between 1954 and 1964, the over-\$250 million farm machinery and equipment firms averaged 6.3 cents less of each taxable income dollar for advertising than small firms did. (14)

Smaller gins, with a capacity of 8 bales or less per hour, stepped up their average output by 44 percent.

These are the findings of a continuing ERS study of West Texas ginning costs. The study covers 42 plants representing nearly 213,000 bales ginned—nearly 14 percent of the West Texas area’s total cotton ginning in 1968/69. (Because of widespread interest in the study, similar ones may be initiated in two other areas of

the State.)

Larger ginning volumes generally mean fuller use of plant facilities, more efficient use of labor and energy, and lower operating costs.

The 1968/69 gains in ginning volumes over 1967/68 were therefore an encouraging sign for the cotton industry—especially in West Texas.

BUT, ranges and averages by size groups and for all sample gins combined were still well below 1965/66 figures in all cases. And despite a significant uptrend in efficiency of plant use, *out-of-pocket* costs for ginner continued to go up.

These costs averaged \$19.36 per bale for all 42 gins combined—an overall rise of 30 cents per bale from 1967/68.

Much of the increase was traceable to bad weather that prolonged the season and added to labor costs. Higher prices for repairs and “miscellaneous” expenses also pushed up costs. (13)

Higher Coffee Prices Stem From Year-Ago Freeze Down in Brazil

U.S. coffee drinkers and purveyors can blame the weather for a considerable part of the recent rise in coffee prices.

In this particular case, a severe freeze hit Brazil’s coffee-producing State of Parana about 14 months ago. In addition, the State of Sao Paulo—also a coffee area—has recently felt the effects of drought.

As an aftermath of Brazil’s weather, this year’s harvest (May-September) is down nearly 50 percent to an estimated 10 million bags, compared with 19 million in 1969. Brazil normally contributes about a third of world coffee supplies.

Substantial coffee stocks held in several countries will lessen the impact of the smaller Brazilian crop. As a result, coffee blends

this year will contain a larger proportion of older coffee than is usually the case.

Coffee prices at all levels have gone up in recent months in the United States.

The sharpest wholesale price advance was mostly in the fourth quarter of last year, with more modest advances the first half of this year. April-June prices of green beans were 13 to 17 cents a pound above those in the same period last year.

Hikes in retail prices lagged about 3 to 4 months behind those for green coffee.

Comparing U.S. average prices this May with those a year earlier, the price of a 1-pound can of regular coffee was up 14.3 cents; a 1-pound bag, up 12.3 cents; and instant coffee (6-ounce jar), up 10.7 cents.

Retail prices have advanced somewhat further since May, and will probably continue to do so the rest of this year in response to the higher wholesale level. The upcoming increases, however, are expected to be somewhat less than those already posted. (15)

Labor Is Big Item in \$63-Billion Bill for Food Marketing Services

Getting food products from the farm to more than 200 million American consumers last year cost \$63.2 billion—or about two-thirds of the \$95.3 billion that consumers spent for farm foods.

The remaining \$32.1 billion of the food bill represented the gross return to farmers for the farm products equivalent to the foods bought by consumers.

This huge marketing bill covers such costs as converting Nebraska steers to steaks on the dining tables of New York . . . and transforming Great Plains wheat to toast served in a San Francisco restaurant.

In broader terms, the bill is an estimate of all costs and profits

incurred in transporting and processing food after it leaves the farm, and of delivering it to consumers—in the form they want it and when they want it.

Among commodity groups, fruits and vegetables and meats run up the largest part of the marketing bill.

It cost \$15.8 billion last year to get fruits and vegetables from farm gate to consumer.

The big marketing bill for fruits and vegetables—one-fourth of the total marketing bill—is due in part to the highly perishable and bulky nature of the fresh products. Too, a number of producing areas are a considerable distance from many large markets. In addition, processing and packaging costs are sizable for processed fruits and vegetables.

Meat products also account for nearly a fourth of the bill for marketing operations. Dairy products and bakery items make up about one-seventh.

The marketing bill for all groups of products was 3.6 percent higher last year than in 1968. But the gain was considerably less than the 6.1-percent rise in 1968, and a little below the decade's average annual rise of 4 percent—paralleling the rise in consumer spending and farm value.

Nearly half the total increase in last year's marketing bill stemmed from labor costs. They rose 7.3 percent to reach \$29.3 billion. Over half of this was for labor employed in food retailing and away-from-home eating places, and one-third for labor in food processing. The rest was for wholesaling.

The bill for labor includes wages and salaries, wage supplements such as social security, tips received by food service workers, and the estimated value of proprietors' and unpaid family workers' earnings.

Higher pay for labor (up 6 percent from 1968) and an ap-

parent slowdown in output per man-hour were the major factors behind the stepped-up labor bill.

Here's the breakdown of the marketing bill:

Cost component	1959	1969
	<i>Billion Dollars</i>	
Labor	17.8	29.3
Transportation	4.0	4.8
Profit (before taxes)	2.1	3.9
Depreciation	1.4	2.2
Business taxes	1.2	2.3
Advertising	1.2	2.0
Rent (net)	1.1	1.7
Interest (net)	.2	.5
Repairs, bad debts, contributions	.7	1.2
Other (residuals, including packaging, utilities)	12.5	15.3
Total	42.2	63.2
		(16)

Highly Perishable Foods Make Good Candidates for Irradiation

What do shrimp and strawberries have in common?

They both appear to be likely candidates for irradiation-pasteurization—a process that retards spoilage and is thus particularly valuable for highly perishable foods.

The process has been under study for several decades. But how soon irradiated products may be on the shelves of your local grocery depends largely on their approval by responsible regulatory agencies, and whether irradiation proves in practice to be the most feasible way to lower spoilage losses.

Mushrooms, papayas and mangoes, blue crab, and East Coast fin fish also have the characteristics that make them good prospects for irradiation.

They are highly perishable and consequently have high spoilage losses. All are produced or processed in concentrated areas. And they're relatively expensive, so the extra pennies to process them by the ultra new method wouldn't add much to the retail price. (17)

The Bean Poll: A Consumer Survey

Chili wins hands down as America's favorite bean dish. Bean soup and pork and beans rank second and third, respectively.

Despite the popularity of these dishes, bean producers would like to see families above the poverty level eat more "pulses"—a large family of beans containing everything from red kidney beans to chick peas.

Higher income families don't eat beans anywhere near as often as less affluent people.

To find out why, the Economic Research Service distributed questionnaires to the major cooks of 156 sample households in the Bay Area of San Francisco.

Asked why they didn't serve beans more often, almost half the respondents simply said, "Like other foods better."

One-fourth of the cooks said beans "didn't agree with them."

Many stated that they just were not in the habit of cooking beans often, or that it took too long to prepare them.

Perhaps the most significant feature emerging from the survey is the large proportion of young families that fail to eat beans frequently. Apparently the generation gap extends even to bean-eaters.

Among bean-eating households, size of family was quite logically the single most important factor controlling the quantity of beans eaten. The survey indicated that 68 percent of the households with three or more members ate at least 10 pounds in a 6-month period. Only half as many households with one or two members used as many.

Childhood experience also influenced the family meal planner's use of beans. If, as a young girl, she had liked them and had eaten them regularly, beans tended to be a frequent feature on the family menu.

The reverse was true for a significant number of respondents—especially younger housewives—whose fond memories of youth were not linked to beans.

In general the younger the cook, the least often she ate or served beans.

As for taste preferences, kidney beans found their way to the dinner table more often than any other kind. Garbanzo and white navy beans were runners-up in the households surveyed.

The most neglected varieties included soy, pink, cranberry, and dry whole yellow beans.

Older cooks regularly used canned and ordinary dry beans. But younger cooks favored ready prepared or dry, quick cooking beans and instant dried bean soups.

Regardless of age, a number of the homemakers felt that bean pots weren't likely to be put back in the oven until some improvements were made.

Among their suggestions: reduction of preparation time; development of "better-tasting, spicier" bean products; and low cost bean-based snack items for the younger generation. (18)



Processed Products Crowd Fresh Items in the Vegetable Basket

Demand for fresh vegetables to fill the salad bowl continues unabated. In the past decade, use of lettuce, cucumbers, and peppers has risen substantially—per capita and in toto.

But many other fresh vegetables are now passed by as customers go for processed forms instead.

The decline in per capita use of some fresh produce began in the late 1930's and early 1940's. First it was peas and lima beans. Snap beans followed. Next, in the 1950's, came the downturn in demand for fresh cabbage and carrots for home cooking.

In more recent years, per capita use of fresh cole crops—broc-

coli, brussels sprouts, and cauliflower—has sagged while frozen use has become brisker. Even sweet corn, a perennial favorite especially with the young, now falls into this category. Spinach and other leafy greens have fared similarly.

In 1964, for the first time, per capita use of processed vegetables equaled that of fresh—about 100 pounds each, fresh equivalent basis.

By 1969, canned or frozen items accounted for 54 percent of total vegetable consumption. Reasons?

... Processed products are generally able to compete with the fresh on quality and price terms.

... The convenience of processed products has stimulated their use.

This convenience factor is closely related to income changes.

Demand for more services (handy packages, quick and easy preparation, etc.) grows along with rising incomes and grows more rapidly than that for basic food products.

In effect, when a pay raise comes around, the family food shopper probably won't buy more fresh spinach. He, or she, is more likely to splurge on the purchase of a processed product—perhaps frozen spinach souffle.

Also linked to the convenience factor is, of course, the ever-increasing employment of women in jobs outside the home.

The shift toward processed vegetables seems likely to continue. But now that the bulk of many major items are already being processed, the pace of the shiftover will probably slow down. (19)

SOME LEADING FRESH VEGETABLES: USE PER PERSON

Year	Lettuce ¹	Tomatoes	Onions ²	Cabbage	Carrots	Cucumbers	Peppers	Celery	8 item total	All fresh vegetables
Pounds										
1947-49	18.6	13.8	12.0	16.1	8.8	2.6	2.1	8.2	82.2	120.5
1957-59	20.3	12.4	11.7	10.6	7.3	2.8	2.2	8.0	75.3	104.1
1960	20.0	12.6	12.3	10.4	7.0	2.9	2.4	8.0	75.9	105.8
1965	21.6	12.1	11.4	9.0	7.0	3.1	2.3	6.7	73.2	98.4
1968	22.2	12.0	12.1	9.2	7.2	3.0	2.7	7.0	75.4	97.8

¹ Includes escarole. ² Includes 0.1 pound of shallots each year through 1958; since 1958 less than 0.05 pound.

Commodity Prices Up, But Take Smaller Bite of Consumer Dollar

Food, clothing and shoes, alcoholic beverages, and tobacco products. These items cost the average American \$895 last year—a sizable jump from the 1959 price tag of \$629.

Although consumers continue to spend ever-greater amounts for these products, the portion of disposable income they spend on them has gradually declined. The reason: Rapidly increasing incomes have eclipsed the rise in prices and spending.

Average personal disposable income (earnings after taxes) soared 63 percent over the past

decade to more than \$3,000.

In 1959, Americans spent an average of \$386 per person for food items. Last year, the per capita food bill was \$518.

Despite this 34-percent increase, food purchases as a portion of income have dropped sharply.

Ten years ago, over 20 percent of consumers' take-home pay went for food alone. Last year, only 16.7 percent of our income disappeared over the grocery counter—though this percentage undoubtedly varies widely among families, depending on income and family size.

Per capita spending on alcoholic beverages has gone up 42 percent over the decade—from

\$57 to \$81. But here, too, we are now spending slightly less of each dollar on spirits—2.7 cents per person in 1969, compared with 3 cents in 1959.

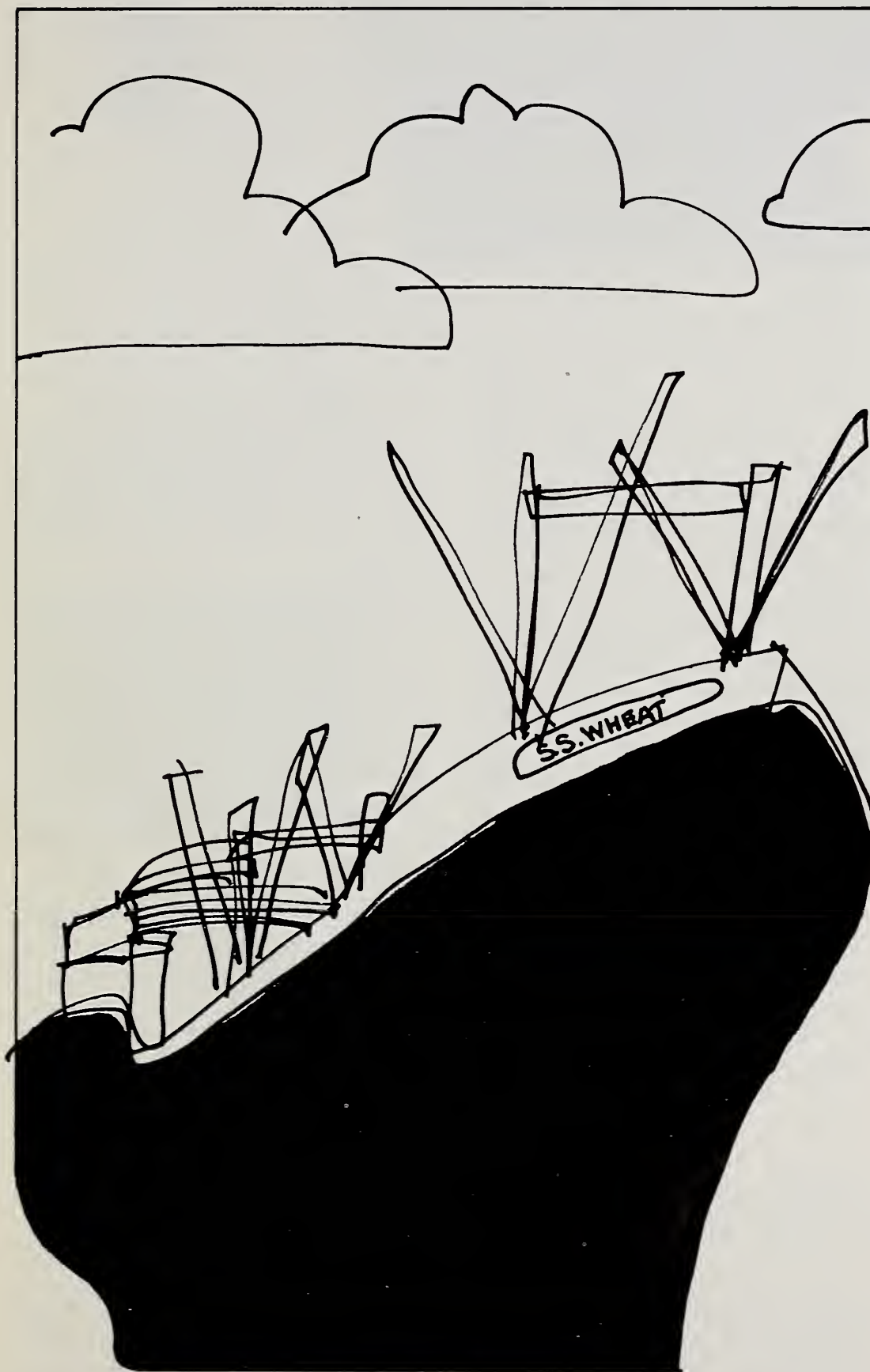
Meanwhile, consumer outlays for clothing and shoes have risen at roughly the same rate as income—over 60 percent.

Ready-to-wear items have therefore taken a fairly consistent portion of income.

Expenditures for clothing and shoes, at \$246 per person in 1969, were up 7 percent from 1968.

Total spending for tobacco has gone up too. But consumption has declined. Tobacco's portion of personal income expenditures was 1.6 percent in 1969 compared with 2.0 percent in 1959. (20)

Whither Wheat In The LDC's?



By using semidwarf wheat varieties, some less developed countries could conceivably become wheat exporters. But in the long run, importing might be cheaper.

A "Green Revolution" in the form of semidwarf wheat varieties has brightened the outlook for some countries that now lean heavily on imports to meet their food needs.

Though many less developed countries (LDC's) cannot grow wheat for climatic reasons, others may achieve self-sufficiency in wheat production before this decade ends, says a report by ERS.

Since first introduced in the early 1960's, the semidwarf varieties have been tried in numerous countries with good results. It's been proved possible to get twice the yield of traditional wheat types—when using semidwarfs along with high-level fertilization and irrigation. This has been the main reason for the record wheat harvest in India and Pakistan during the past 3 years.

This success raises a new question. If some LDC's can become self-sufficient in wheat, couldn't they also produce wheat for the export market? The possibility is real, provided such countries were to make a concerted effort.

The consequences would not be all to the good of world wheat trade, at least not from an exporter's viewpoint.

There is also reason to believe that if certain LDC's are looking for a commodity with a bright export future—wheat *is not* such a commodity.

Competition will stay keen in the arena of world wheat exporters. A drive by the LDC's to enter this contest would encounter declining world wheat prices.

World markets simply could not absorb all the grain that would be available for export.

This would be true despite the prospect of continued growth in global demand for wheat in response to rising incomes and population increases.

In 1980, total net imports by the LDC's are projected 45 percent above the 1964-66 level (about 23 million metric tons) if present trends in the world wheat

economy hold up and 1964-66 price levels are maintained.

Even so, the imbalance in world wheat supply and demand in 1980 would be far more of a problem than it now is. The export availability could exceed demand for imports by about 22 million tons.

However, the traditional exporters—notably the United States, Canada, and Australia—would probably take steps to prevent such an imbalance from developing. As in the past, they would adjust their prices and policies so as to keep their supplies in tow.

The greatest expansion in the LDC's wheat output can take place in South Asia, principally India and Pakistan. Through use of semidwarf varieties plus other inputs, this region might double its production by 1980 to around 44 million tons. South Asia's net imports would then fall to 2.4 million tons, from 9.3 million in 1964-66.

But what if this region decided to expand production to the point where it can become a net exporter?

If the effort succeeded, South Asia's export supply could conceivably increase to over 7 million tons in 1980. Exports by the United States, Canada, and Australia would drop sharply by 8.7 million tons. This would be one-fifth below the 39 tons projected under the "continuing policy" assumption, and 11 tons below exports in 1964-66.

This would be the case only if the three major exporters adopted measures to maintain world price at "reasonable levels." They would do this by reducing their output and increasing stocks.

On the other hand, were the "big three" exporters to push for their traditional market shares, world prices would drop precipitously. Import costs for the LDC's would decrease. But so would the export earnings of other LDC's—Argentina and

South Asia—owing to the lower prices.

Important changes would have to take place in order for South Asia to become a major exporter. The changes could prove costly to bring about.

This region now produces mostly soft wheat, which is unsuited to present bread baking techniques. To gain acceptance in international trade, wheat quality would have to be improved.

In addition, the region's production costs and domestic wheat prices would be high relative to world prices. An export subsidy might therefore be needed. These subsidies could cost between \$300 million and \$400 million a year to make South Asian wheat competitive with that of other exporters.

A program to greatly step up wheat output—and exports—in the LDC's could thus prove to be a most costly way of earning foreign exchange, according to the recent ERS study. These costs must be weighed against those of importing wheat, and against the alternative uses for scarce resources for economic development.

It might in the long run be cheaper to import wheat than expand production. Importing wheat might also be less costly than transporting indigenous wheat over long distances via an already overtaxed distribution system. (21)

Pakistan's Agriculture Receives Lift From Diversification Efforts

From the searing deserts of Sind to the soaring heights of the Himalayas, the agricultural face of Pakistan is changing.

At the present rate of crop diversification and development of backward areas, Pakistan could reach some of its long-planned goals within the next few years. The timing will depend on Pakis-

tan's ability to continue its rate of agricultural growth and, in turn, further expand its market.

Exports should benefit from the Asian highway now being built, new roads opening up to the USSR through Afghanistan, and lowered ocean freight costs.

The USSR, Eastern Europe, Hong Kong, and Singapore are all expected to be buying more farm products from Pakistan.

And, since the Suez Canal closed, Kuwait, Saudi Arabia, and the Trucial States have already turned to Pakistan for more fruits, vegetables, and processed foods.

As for growth in crop output, much of it will be in vegetables, grains and fruits. Major emphasis in late 1960's was on wheat and rice.

Programs to boost fruit production in areas where the climate is conducive has added considerably to incomes of small farmers. Program incentives have encouraged farmers from construction and other jobs with off-farm earnings to develop new orchards. This expansion shows up quite noticeably in pears, apples, and grapes.

Output of tropical fruits has increased in Sind and the irrigated areas near Karachi. The banana harvest in West Pakistan rose from 3,000 tons in 1961 to over 50,000 tons a year in the late 1960's.

In addition, walnut, olive, and almond orchards north of Rawalpindi have been enlarged. Most of the country's bananas, papayas, pineapples, and jackfruit (similar to a breadfruit), are grown in East Pakistan, which also produces about half the big mango crop. And air shipments of mango juice to Europe and the United States have picked up in recent years.

In the Chittagong hills of East Pakistan commercial plantings of cashews and pineapples are growing in volume, value, and importance. (22)



A COMPARISON: AGRICULTURE IN THE U.S. AND INDIA

PEOPLE / Over two-thirds of the people in India work in agriculture, often because no other work is available. Only 6 percent of the U.S. labor force is employed on farms.

United States	1969		India
3,600	Total land area	Thousand square miles	1,059
201	Population	Millions	537
78	Average annual employment	Millions	230
4.6	Average annual employment in agriculture	Millions	159.0
6	Agriculture's share of work force	Percent	69
1.6	Workers per farm	Number	3.1

FARMS / Small subsistence farms dominate India's landscape, though most of the big gains in wheat are on medium-sized commercial farms in the northwest. The average U.S. farm has over 10 times the cropland area of the average farm in India. Grains are the major crops in both countries.

3	Number of farms	Millions	54
365	Land area per farm	Acres	7
100	Sown area per farm	Acres	6
240	Land area per worker	Acres	2.4
65	Sown area per worker	Acres	2.1
16,700	Value of output per farm	Dollars	343
2,200	Value of exports per farm	Dollars	11
3,080	Food supply per capita	Calories	2,140

INPUTS / Fertilizer use in India has doubled since 1966, but the U.S. uses about 10 times more per acre of cropland. India tills less than 5 percent of its cropland with tractors, mostly north of Delhi where farms average over 15 acres. Electricity is enabling more Indian farmers to install irrigation pumps.

	Fertilizer (plant nutrients)		
120	per sown acre	Pounds	12
4.9	Tractors	Millions	0.1
3.2	Trucks	Millions	0.03
32	Irrigated cropland	Million acres	72

OUTPUT / India grows about 10 times as much rice as the U.S. but still must import some. Its wheat production is about half that of the U.S. Over 40 percent of the wheat used in India in 1966 was imported, but only 15 percent in 1969. Though India's is the world's largest peanut producer, it is a growing cash buyer of U.S. vegetable oils. (23)

4.1	Rice, paddy	Million metric tons	61.6
39.7	Wheat	"	18.7
116.3	Corn	"	6.0
18.9	Grain sorghums	"	10.5
9.1	Barley	"	2.4
1.1	Beans and peas, dry	"	10.4
14.6	Potatoes (including sweet potatoes)	"	6.4
20.5	Sugarcane	"	117.6
1.1	Peanuts	"	5.2
35.3	Oilseeds other than peanuts	"	4.9
20.0	Fruits and nuts	"	13.0
.818	Tobacco	"	.347
2.2	Cotton	"	1.1

Spindle Count Spirals to New Heights for Hong Kong Weavers

A lot of people are spinning yarns in Hong Kong these days, and that's not just talk.

Reports indicate that Hong Kong's spinning industry has boomed during recent years.

In 1947, the Crown Colony had only 5,000 spindles. But by 1967 the spindle count had spiraled to 767,000. (A spindle of cotton yarn measures 15,120 yards—a little over 8 and a half miles.)

The rise of Hong Kong's spinning industry is interwoven with its expanding consumption of cotton.

An estimated 775,000 bales were used in the 1969/70 crop year which ended on July 31. This is an increase of 270,000 since 1961/62.

Most of the raw cotton imported into Hong Kong leaves the Colony as textiles (cotton piece goods) and clothing—some of which winds up on Main Street, U.S.A.

Cotton clothing, a vital part of Hong Kong's flourishing garment industry, is exported in voluminous quantities. Total cotton clothing exports in 1967 were 78,000 tons, up nearly 6,000 tons from 1964.

The export increase in cotton clothing is shared by woven and knitted fabrics, as well as other materials such as bedsheets and pillowcases. (24)

Despite Romania's Agricultural Growth, Production Output Lags

Romania's agricultural growth in the 1960's exceeded the average for Eastern Europe. Its crop yields and output of high value livestock products, however, are unimpressive compared with other East European countries.

Crop and livestock production, as a share of total agricultural

output, rank among the lowest in East Europe.

Only 44 percent of Romania's land is arable. Still, agriculture is the predominate occupation, employing 56 percent of the labor force.

Economic growth in Romania is formulated in terms of 5-year plans by the Romanian Communist Party. Growth in agricultural output is planned to exceed about 5 percent yearly during 1971-75.

This optimism is based in part on rapidly rising inputs. For example, while application of mineral fertilizer was only 15½ pounds per hectare (about 2½ acres) in 1960, it rose to over 101 pounds per hectare in 1968. Plans call for 1.1 million tons to be used in 1970—2.5 times the 1968 level.

Tractors, too, continue to be used more extensively. On state and collective farms, 85 percent of the small grain was harvested by machine in 1968.

Grain production is planned to increase to 17.5-18.5 million tons by 1975. (25)

Oriental Flavor

Turkey can still claim its distinction as the world's leading producer of "oriental" tobacco. And the United States is Turkey's chief customer for tobacco.

In calendar year 1969, about 50 percent of Turkey's \$81-million tobacco exports went to the United States.

Although the U.S. takings of Turkish tobacco were down slightly from the 1968 level, we still imported for consumption (duty paid), about 103 million pounds to blend with our own tobaccos. This represented about 50 percent of total 1969 U.S. tobacco imports.

Use of imported tobacco in the U.S. cuts the proportion of domestic tobacco used in blends. A number of the imported types are known for their low nicotine content. (26)

Most of World Reports Identical Story: Food Price Tag on the Rise

Food prices are going up all over.

Out of 40 countries that report consumer price changes to the United Nations, only Kenya (Nairobi) had lower food prices in 1969 than in 1968.

Close to two-thirds of these countries had food price increases ranging from 3 to 6 percent, and 7 countries showed less than a 3-percent rise.

Among European countries, only Portugal (Lisbon) and the Netherlands reported a significantly greater rise than that of 5-percent in the United States. The gain was 9 percent in Portugal and 7 percent in the Netherlands.

Following a rise of around 10 percent in 1968, Denmark and Finland recorded smaller price boosts last year—5 and 3 percent, respectively.

The gain in Spain slowed from 5 percent in 1968 to 2 percent in 1969. But in most other European countries, price gains accelerated.

Food prices rose nearly a fourth in Vietnam (Saigon) and a tenth in Cambodia (Phnom-Penh) last year, but only 3 percent in Israel. Other Asian countries reported increases closely in line with the United States.

Sharpest rises however, were in Brazil and Vietnam (25 percent) and in Chile (31 percent).

But in Argentina, where food price increases had averaged about 30 percent annually between 1963 and 1967, gains slowed to 16 percent in 1968 and 6 percent in 1969.

In most countries, price changes for food pretty much paralleled changes for all consumer items.

Exceptions were Ecuador, Cambodia, Yugoslavia and Thailand—where food led the overall rise in consumer prices to a considerable degree. (27)

Recent Publications

GROWTH IN WORLD DEMAND FOR FEED GRAINS: RELATED TO MEAT AND LIVESTOCK PRODUCTS AND HUMAN CONSUMPTION OF GRAIN, 1980. Donald W. Regier and O. Halbert Goolsby, Foreign Development and Trade Division, FAER 63.

World exports of the major feed grains almost doubled during the first two-thirds of the past decade. They are expected to continue upward, since the amount of feed grains fed to livestock is projected to increase at an annual rate of 4 percent in the next 10 years. (see August 1970 Farm Index.)

FEDERAL LAND BANK FARM-MORTGAGE LOANS—A STATISTICAL STUDY OF LOANS OUTSTANDING, SEPTEMBER 30, 1966. John B. Penson, Jr., and Forest G. Warren, Farm Production Economics Division, ERS 438.

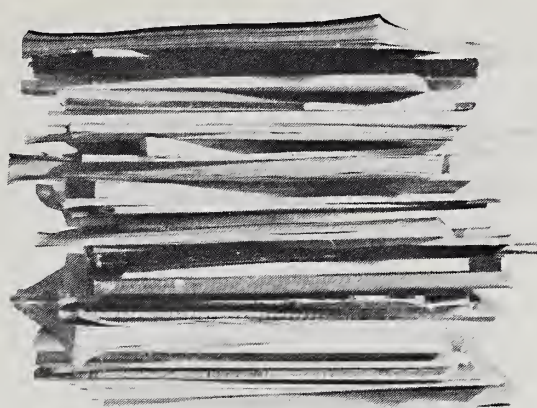
The Federal Land Bank System, consisting of 12 district land banks and approximately 650 land bank associations, provides a source of long-term funds for farm borrowers. The increasing importance of these available funds is due in part to the substitution of capital for labor.

MINIMUM LAND REQUIREMENTS FOR \$5,000 OPERATOR EARNINGS IN THE HILL AREA OF WEST TENNESSEE. Harold E. Barnhill, Farm Production Economics Division, Univ. of Tenn. Agr. Experiment Station Bull. 460.*

Netting \$5,000 in the Hill Area of West Tennessee is no easy task. This study divides the area into three distinct soil groups, giving the amount of acreage and capital investment required of each.

CHANGES IN FARM PRODUCTION AND EFFICIENCY. Farm Production Economics Division, Stat. Bull. 233.

U.S. farm output reached a new high last year, reflecting both



The publications listed here are issued by the Economic Research Service and cooperatively by the State universities and colleges. Unless otherwise noted, reports listed here and under Sources are published by ERS. Single copies are available free from The Farm Index, OMS, U.S. Department of Agriculture, Washington, D.C. 20250. State publications (descriptions below include name of experiment station or university after title) may be obtained only by writing to the issuing agencies of the respective States.

livestock and crop production. The statistical summary provides the latest information on changes in production, farm inputs and practices, improvement in labor productivity, and progress of farm mechanization.

PRICE SPREADS FOR APPLES, GRAPEFRUIT, GRAPES, LEMONS, AND ORANGES SOLD FRESH IN SELECTED MARKETS, 1962/63-1966/67. Alfred J. Burns and Victor G. Edman, Marketing Economics Division, MRR-888.

This report presents price and spread data for selected fresh fruits for a 5-year period. The seasonal average retail price, monthly and seasonal average retail value, wholesale or auction price, and shipping point price per carton for a given size container are included.

WORLD DEMAND PROSPECTS FOR WHEAT IN 1980. John E. Hutchinson, James J. Naive, and Sheldon K. Tsu, Foreign Regional Analysis Division, FAER-62.

Increasing world consumption has resulted in an expansion of world wheat trade. Consumption is expected to continue to increase, particularly in less developed regions, with the successful introduction of the semidwarf varieties—a development sometimes called the “Green Revolution.” (See page 17, this issue.)

SUPPLEMENT FOR 1969 TO FOOD GRAIN STATISTICS. Food Grains Section, Commodity Analysis Branch, Economic and Statistical Analysis Division, Stat. Bull. 423.

This supplement provides reference data on supply, utilization, exports and acreage of wheat, rice and rye. A new series on rice milling for the South and for California, and quarterly supply and disappearance data for wheat and rye are included.

THE AGRICULTURAL SITUATION IN AFRICA AND WEST ASIA. Africa and Middle East Branch, Foreign Regional Analysis Division, ERS-For. 293.

Africa's agricultural outturn for 1969 was almost 2 percent greater than in 1968. The report gives the early-season outlook for 1970 crops by selected countries and commodities, reviews country trade in agricultural products, and covers each country's trade policy in 1969.

FARMS REPORTING DAIRY SALES IN 1964 SELECTED CHARACTERISTICS. Boyd M. Buxton, Farm Production Economics Division, ERS-445.

This report examines some of the forces that have dramatically changed the U.S. dairy production sector, and will probably continue to change it in various parts of the United States.

AN ECONOMIC ANALYSIS OF THE IOWA RURAL RENEWAL AREA. Area Analysis Branch, Economic Development Division, AER-181.

Declining demand for farm labor and lack of alternative jobs caused a net population loss in the Iowa Rural Renewal Area (Appanoose and Monroe counties) during the 1960's. The economic situation in the 1970's may be better because of greater emphasis on expanding nonfarm industry and using a multicounty approach to stimulate employment growth.

NATURAL RESOURCE SPECIAL DISTRICTS IN APPALACHIA . . . REVIEW OF ENABLING LAWS. Anne Hammill and Ivan Hanson, Natural Resource Economics Division, ERS-444.

Special districts are public corporate entities that exist outside the regular structure of civil gov-

ernment. They exist for special usually single purposes (ranging from preserving wildlife to preventing floods) and perform limited functions.

Districts concerned with natural resources effect economic development through their influence on use of land and water.

A USER'S GUIDE TO LINEAR PROGRAMMING AND THE IBM MPS-360 COMPUTER ROUTINE. Billy G. Freeman, Farm Production Economics Division, and Curtis F. Lard, Texas Agricultural Experiment Station, Texas Agr. Sta. Technical Report 70-2.*

This guide is designed to aid the inexperienced programmer in some of the mechanical aspects of linear programming: matrix formulation and the MPS/360 computer routine. It also illustrates the flexibility and options available to users of the routine.

LABOR USED ON U.S. FARMS 1964 AND 1966. Walter E. Sellers, Jr., Farm Production Economics Division, Stat. Bull. 438.

The farms most directly affected by increases in labor costs and manpower shortages in 1964 and 1966 were those that sold over \$20,000 of farm products. Type of farm, region, and size of farming operation influenced hiring practices and total labor demand.

PROPENSITY FOR CHANGE AMONG THE RURAL POOR IN THE MISSISSIPPI DELTA. C. Hobson Bryan, Economic Development Division, and Alvin L. Bertrand, Louisiana State University, AER-185.

In a sampling of the rural poor, household heads with high propensity for change tended to be in the younger age groups, married, heads of smaller households, Negro, and have a comparatively high level of education.

Article Sources

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3. *Livestock and Meat Situation*, LMS-174.
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8. John E. Stoner, Indiana Univ., in cooperation with ERS. *Inter-local Government Cooperation*, AER-118; also EDD. (Special material.)
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27. *National Food Situation*, NFS-133.

NOTE: Unless otherwise indicated, authors are on the staff of the Economic Research Service (ERS) with their divisions designated as follows: Economic and Statistical Analysis Division (ESAD); Economic Development Division (EDD); Farm Production Economics Division (FPED); Foreign Development and Trade Division (FDTD); Foreign Regional Analysis Division (FRAD); Marketing Economics Division (MED); and Natural Resource Economics Division (NRED).

Economic Trends

Item	Unit or Base Period	'57-'59 Average	1969 Year	July	May	1970 June	July
Prices:							
Prices received by farmers	1910-14=100	242	275	281	282	281	286
Crops	1910-14=100	223	220	221	233	232	235
Livestock and products	1910-14=100	258	323	332	324	323	330
Prices paid, interest, taxes and wage rates	1910-14=100	293	373	374	388	390	389
Family living items	1910-14=100	286	351	352	365	366	366
Production items	1910-14=100	262	304	305	312	313	313
Parity ratio		83	74	75	73	72	74
Wholesale prices, all commodities	1957-59=100	—	113.0	113.3	116.8	117.0	117.7
Industrial commodities	1957-59=100	—	112.7	112.4	116.6	116.7	116.9
Farm products	1957-59=100	—	108.5	110.5	111.0	111.3	113.1
Processed foods and feeds	1957-59=100	—	119.8	122.0	124.1	124.8	126.6
Consumer price index, all items	1957-59=100	—	127.7	128.2	134.6	135.2	135.7
Food	1957-59=100	—	125.5	126.7	132.4	132.7	133.4
Farm Food Market Basket: ¹							
Retail cost	Dollars	983	1,173	1,190	1,226	1,226	1,236
Farm value	Dollars	388	477	497	485	479	498
Farm-retail spread	Dollars	595	696	693	741	747	738
Farmers' share of retail cost	Percent	39	41	42	40	39	40
Farm Income: ²							
Volume of farm marketings	1957-59=100	—	126	121	97	108	122
Cash receipts from farm marketings	Million Dollars	32,247	47,229	3,737	3,269	3,460	3,800
Crops	Million Dollars	13,766	18,790	1,434	869	1,139	1,500
Livestock and products	Million Dollars	18,481	28,439	2,303	2,400	2,321	2,300
Realized gross income ³	Billion Dollars	—	54.6	—	—	56.2	—
Farm production expenses ³	Billion Dollars	—	38.4	—	—	40.1	—
Realized net income ³	Billion Dollars	—	16.2	—	—	16.1	—
Agricultural Trade:							
Agricultural exports	Million Dollars	4,105	6,228	500	567.1	539.4	558.3
Agricultural imports	Million Dollars	3,977	5,024	434	437.5	490.9	455.3
Land Values:							
Average value per acre	1957-59=100	—	⁵ 187	⁶ 187	⁷ 186	⁷ 186	⁷ 186
Total value of farm real estate	Billion Dollars	—	⁵ 202.6	⁶ 202.6	⁷ 208.9	⁷ 208.9	⁷ 208.9
Gross National Product: ³							
Consumption	Billion Dollars	457.3	931.4	—	—	971.1	—
Investment	Billion Dollars	294.2	577.5	—	—	614.4	—
Government expenditures	Billion Dollars	68.0	139.8	—	—	134.3	—
Net exports	Billion Dollars	92.4	212.2	—	—	218.4	—
	Billion Dollars	2.7	1.9	—	—	4.1	—
Income and Spending: ⁴							
Personal income, annual rate	Billion Dollars	365.3	748.9	752.7	799.7	798.2	801.8
Total retail sales, monthly rate	Million Dollars	17,105	29,303	29,090	30,502	30,432	—
Retail sales of food groups, monthly rate	Million Dollars	4,160	6,322	6,275	6,765	6,829	—
Employment and Wages: ⁴							
Total civilian employment	Millions	63.9	77.9	77.9	78.4	78.2	78.6
Agricultural	Millions	5.7	3.6	3.6	3.6	3.6	3.5
Rate of unemployment	Percent	5.5	3.5	3.5	5.0	4.7	5.0
Workweek in manufacturing	Hours	39.8	40.6	40.6	39.8	39.8	39.9
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	3.19	3.19	3.34	3.36	3.36
Industrial Production: ⁴							
	1957-59=100	—	173	175	169	169	169
Manufacturers' Shipments and Inventories: ⁴							
Total shipments, monthly rate	Million Dollars	28,745	54,611	55,392	55,545	56,207	—
Total inventories, book value end of month	Million Dollars	51,549	95,905	93,166	97,923	97,773	—
Total new orders, monthly rate	Million Dollars	28,365	54,815	55,793	54,634	55,305	—

¹ Average annual quantities of farm food products purchased by urban wage-earner and clerical-worker households (including those of single workers living alone) in 1959-61—estimated monthly. ² Annual and quarterly data are on 50-State basis. ³ Annual rates seasonally adjusted second quarter. ⁴ Seasonally adjusted. ⁵ As of March 1, 1969. ⁶ As of November 1, 1969. ⁷ As of March 1, 1970.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Advance Retail Sales Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

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